

What is claimed is:

1. A method for manufacturing a ceramic powder having a perovskite structure comprising the steps of:
  - 5 synthesizing ceramic powder by a non-wet synthesis method; and
  - heat-treating the synthesized ceramic powder in a solution.
- 10 2. The method of claim 1, wherein the non-wet synthesis method is one of a solid phase synthesis method, an oxalate method, a citric acid method and a gas phase synthesis method.
- 15 3. The method of claim 1 or 2, wherein a heat treatment temperature is equal to or greater than 80 °C.
4. The method of claim 1 or 2, wherein a solution employed in the heat-treating step has a pH greater than 7.
- 20 5. The method of claim 1 or 2, wherein a solution employed in the heat-treating step contains ions of A-site metal of the ceramic powder in a form of  $ABO_3$ .
- 25 6. Ceramic powder having a perovskite structure obtained

by the manufacturing method of claim 1 or 2, wherein the ceramic powder has a crystal lattice of a tetragonal system; particles of the ceramic powder are equal to or less than 0.2  $\mu\text{m}$ ; a c/a axial ratio of the crystal lattice is equal to or greater than 1.006; and a ratio of area occupied by holes in a single particle of the ceramic powder is equal to or less than 5%.

7. Ceramic powder having a perovskite structure obtained by the manufacturing method of claim 1 or 2, wherein the ceramic powder has a crystal lattice of a cubic system; particles of the ceramic powder is equal to or less than 0.2  $\mu\text{m}$ ; a full-width at half-maximum (FWHM) of an X-ray diffraction (XRD) (111) peak of the crystal lattice is equal to or smaller than 0.270°; and a ratio of area occupied by holes in a single particle of the ceramic powder is equal to or less than 5%.

8. The ceramic powder of claim 6, wherein a particle diameter distribution of the ceramic powder is less than 30%, the particle diameter distribution being standard deviation/mean diameter of particles.

9. Ceramic powder having a perovskite structure, wherein the ceramic powder has a crystal lattice of a tetragonal

system; particles of the ceramic powder are equal to or less than 0.2  $\mu\text{m}$ ; a c/a axial ratio of the crystal lattice is equal to or greater than 1.006; and a ratio of area occupied by holes in a single particle of the ceramic powder is equal to or less than 5%.

10. Ceramic powder having a perovskite structure, wherein the ceramic powder has a crystal lattice of a cubic system; particles of the ceramic powder is equal to or less than 0.2  $\mu\text{m}$ ; a full-width at half-maximum (FWHM) of an X-ray diffraction (XRD) (111) peak of the crystal lattice is equal to or smaller than 0.270°; and a ratio of area occupied by holes in a single particle of the ceramic powder is equal to or less than 5%.

15

11. The ceramic powder of claim 9 or 10, wherein a particle diameter distribution of the ceramic powder is less than 30%, the particle diameter distribution being standard deviation/ mean diameter of particles.

20

12. Ceramic electronic component comprising a dielectric portion made of the ceramic powder of claim 9 or 10.

13. A method for manufacturing a ceramic electronic component comprising the step of forming a dielectric

portion by employing the ceramic powder of claim 9 or 10.

14. A multi-layer ceramic capacitor comprising:

5 a dielectric portion made of the ceramic powder of claim 9 or 10;

a plurality of internal electrodes whose edges are alternately exposed at two surfaces of the dielectric portion; and

10 a pair of external electrodes formed at surfaces of the dielectric portion to be connected to the exposed edges of the internal electrodes.

15. A method for manufacturing a multi-layer ceramic capacitor comprising the steps of:

15 forming green sheets by using slurry including the ceramic powder of claim 9 or 10 as a main component thereof;

forming an array of unsintered internal electrode layers on the green sheets;

20 obtaining a laminated body by compressing a stack, the stack including the green sheets having thereon the unsintered internal electrode layers;

attaining unit chips by dicing the laminated body into pieces of a chip size and sintering the pieces, each unit chip having two opposing surfaces at which the sintered  
25 internal electrodes are alternately exposed; and

forming a pair of external electrodes at surfaces of each unit chip to be connected to exposed edges of the internal electrodes.